abcam

ab314183

Anti-PSME1 antibody [29D5]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	29D5
Purification technique	Affinity purification

Reactivity data

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Target data

See full target information PSME1

Function	Implicated in immunoproteasome assembly and required for efficient antigen processing. The PA28 activator complex enhances the generation of class I binding peptides by altering the cleavage pattern of the proteasome.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	PSME1 also known as PA28α (proteasome activator complex subunit 1) is a protein that functions as a regulatory component of the 20S proteasome. It has a molecular weight of approximately 28 kDa. This protein is expressed in various tissues with noticeable expression in immune-related tissues such as the spleen and thymus. PSME1 binds to proteasome core particles and modifies their activity by opening access to their catalytic core honing the degradation of ubiquitinated proteins.
Biological function summary	PSME1 modulates protein degradation processes and participates as a component of the immunoproteasome. The immunoproteasome is a complex that processes peptides for presentation on MHC class I molecules vital for immune response. This involvement transforms PSME1 into an important player in antigen processing and presentation influencing T-cell activation and immune surveillance. PSME1 affects immune system adaptability and efficiency impacting infection response and immune regulation.
Pathways	PSME1 is a significant participant in the ubiquitin-proteasome system and the MHC class I antigen processing pathway. It directly interacts with other proteasome components like the catalytic 20S core and the 11S regulator. The interplay with these proteins steers the precision and output of antigenic peptides essential for T-cell mediated immune recognition. By influencing these pathways PSME1 links the protein degradation machinery to adaptive immunity.
Associated diseases and disorders	PSME1 has connections to autoimmune diseases and cancers. Alterations in its function or expression can disrupt regular proteasome activity leading to improper immune responses such as in autoimmune pathologies like systemic lupus erythematosus. Furthermore PSME1's role in antigen processing intersects with other proteins such as TAP1 affecting immune evasion strategies seen in certain cancers. These interactions suggest that PSME1 is a contributor in both immune-related health issues and cancer progression.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

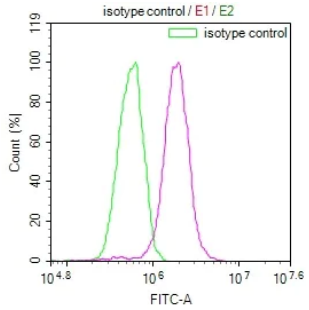
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

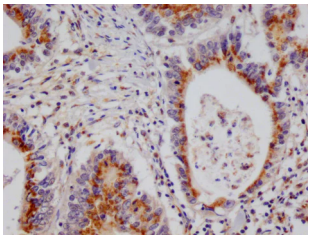
4 product images



Flow Cytometry (Intracellular) - Anti-PSME1 antibody [29D5] (ab314183)

PSME1 Flow Cytometry (Intracellular) staining of HepG2 cells using rabbit Anti-PSME1 antibody

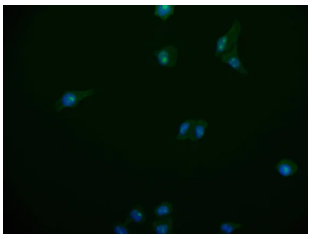
Overlay Peak curve showing HepG2 (Human liver hepatocellular carcinoma cell line) cells stained with ab314183 (pink line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1x10E6cells) for 45min at 4°C. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG (H+L) at 1:200 dilution for 35min at 4°C. Control antibody (green line) was rabbit IgG (1ug/1x10E6cells) used under the same conditions. Acquisition of >10,000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSME1 antibody [29D5] (ab314183)

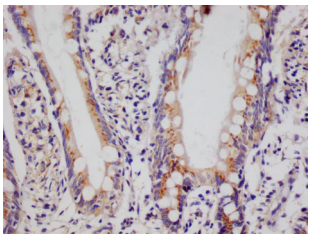
Immunohistochemical analysis of ab314183 diluted at 1:100 and staining in paraffin-embedded human colon cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10%

normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.



Immunocytochemistry/ Immunofluorescence - Anti-PSME1 antibody [29D5] (ab314183)

Immunofluorescence staining of HepG2 (Human liver hepatocellular carcinoma cell line) cells with ab314183 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor® 518-conjugated Goat Anti-Rabbit IgG(H+L).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-PSME1 antibody [29D5] (ab314183)

Immunohistochemical analysis of ab314183 diluted at 1:100 and staining in paraffin-embedded human small intestine tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.